ReMFra

Newsletter #4 May 2024

The ReMFra project

The objectives of the ReMFra project is to demonstrate and qualify a system for the recovery and the valorisation of the metal and mineral fractions contained in steel making processing residues, to improve the metal recovery yield, to reach the full circularity and to reduce the environmental impact of the steel sector all over Europe.

Current activities

Work Package 3: The pre-treatment steps for every single feedstock for the Plasma and the RecoDust demo, the basic and detailed design of Plasma and RecoDust, as well as the overall ReMFra process design and infrastructure definition, were done. The feedstocks used for the ReMFra process cover the main production routes (basic oxygen furnace, electric arc furnace). Additional feedstocks from the Hisarna smelting reduction process will be investigated in terms of their suitability for the ReMFra process. The joint efforts planned here will generate synergies to achieve the project goals.

Sustainable briquettes
The pioneering PlasmaReactor needs new recipes to meet the requirements for sustainable feedstocks. The picture shows a briquette containing mill scale and waste plastic, which serves as an alternative and more sustainable reducing agent.

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Recovering metals and mineral fraction from steelmaking residues

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Project meeting

The last project meeting was held in Rome at the main office of Rina-CSM. A visit of the technical centre rounded up the meeting. The group photo was done in front of a smelting furnace at RINA-CSM.

Dissemination activities

The project partner started the dissemination activities under the lead of K1-MET:

- ✓ Accepted contribution at the Recy & DepoTech in Leoben, which is Austrias largest waste management and recycling conference with more than 600 expected conference participants. Wolfgang Reiter will hold a presentation there.

- ✓ The first peer-reviewed paper, "Towards the Circularity of the EU Steel Industry: Modern Technologies for the Recycling of Dusts and Recovery of Resources", has been published in Metals 14(2), paper no. 233, and gives a short overview of the possibilities of the ReMFra project. https://doi.org/10.3390/met14020233

Communication activities

- ✓ Press release about the ReMFra project was published in the online magazine of the Upper Austrian business organization. https://www.bizup.at/fileadmin/user_upload/BizupWebsite/4a_FI_Statische_Seiten/Horizon_Europe/2024_Horizon_K1-met_und_voestalpine_FINAL.pdf

Outlook on the following activities

The following important tasks are the erecting, adaption, and commissioning of the pilot plants to prepare them for the test trials.

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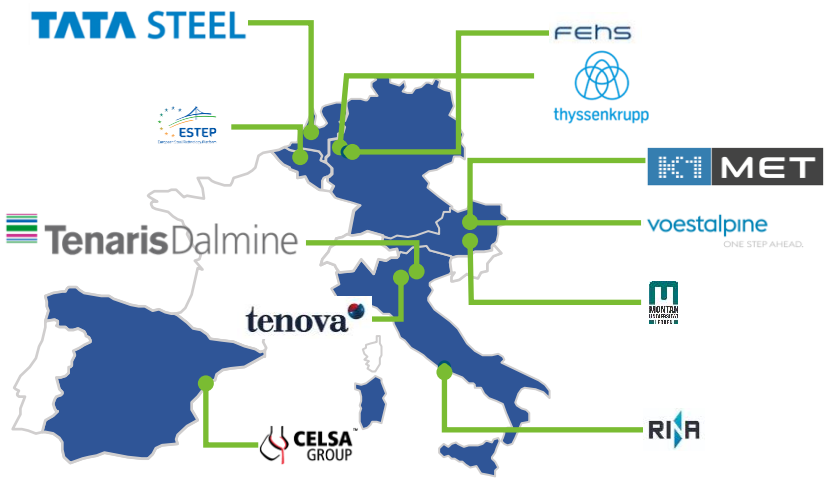
PROJECT PARTNERS:

Starting with the project coordinator, the consortium is composed as follows:

- ✓ Tenaris Dalmine (Italy, Coordinator)
- ✓ Tenova (Italy)
- ✓ RINA Consulting – Centro Sviluppo Materiali (Italy)
- ✓ European Steel Technology Platform (Belgium)
- ✓ K1-MET (Austria)
- ✓ voestalpine Stahl (Austria)
- ✓ Montanuniversität Leoben, Chair of Thermal Processing Technology (Austria)
- ✓ FEhS Institut fuer Baustoffforschung e.V. (Germany)
- ✓ thyssenkrupp Steel Europe (Germany)
- ✓ Tata Steel Netherland Technology (The Netherlands)
- ✓ Barna Steel (Spain)



FUNDING SCHEME AND CONSORTIUM

✓ Call: Horizon Europe Clean Steel Partnership (HORIZON-CL4-2021-TWIN-TRANSITION-01-19)
Type of action: Innovation Action (IA)
Granting authority: European Health and Digital Executive Agency
✓ The ReMFra project receives funding by the European Union (Grant Agreement no. 101058362).